

## WEST Search History

DATE: Monday, July 07, 2003

**Set Name Query**  
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result set

*DB=USPT; PLUR=YES; OP=ADJ*

L7	apoptosis and HCMV and kinase.clm.	5	L7
L6	apoptosis and HCMV and kinase	83	L6
L5	apoptosis and HCMV.clm.	6	L5
L4	detecting and apoptosis and HCMV.clm.	3	L4
L3	detecting and apoptosis and HCMV	62	L3
L2	detecting agent and apoptosis and HCMV	0	L2
L1	apoptosis and HCMV	97	L1

END OF SEARCH HISTORY

d his

(FILE 'HOME' ENTERED AT 10:37:20 ON 07 JUL 2003)

FILE 'MEDLINE' ENTERED AT 10:37:28 ON 07 JUL 2003

L1 176153 S KINASE  
L2 1237 S RIP  
L3 95 S L1 AND L2  
L4 4 S HERPESVIRUS AND L3  
L5 0 S HCMV AND L3  
L6 0 S CYTOMEGALOVIRUS AND L3  
E SCHUBART D/AU  
L7 1 S E3  
L8 4 S E4  
E HABENBERGER P/AU  
L9 1 S E4  
E BEVEC D/AU  
L10 44 S E3  
L11 1 S E4  
L12 3 S L1 AND L10  
L13 0 S L11 AND L1

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI, BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, ...' ENTERED AT 10:45:33 ON 07 JUL 2003

SEA KINASE AND RIP AND CYTOMEGALOVIRUS

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1 FILE BIOTECHABS  
1 FILE BIOTECHDS  
4 FILE CAPLUS  
23 FILE DGENE  
1 FILE IFIPAT  
220 FILE USPATFULL  
4 FILE USPAT2  
1 FILE WPIDS  
1 FILE WPINDEX

L14 QUE KINASE AND RIP AND CYTOMEGALOVIRUS

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FILE 'CAPLUS' ENTERED AT 10:47:27 ON 07 JUL 2003

L15 4 S KINASE AND RIP AND CYTOMEGALOVIRUS

FILE 'DGENE' ENTERED AT 10:50:33 ON 07 JUL 2003

L16 23 S KINASE AND RIP AND CYTOMEGALOVIRUS

infection, and genes possibly involved in mediating the pathology of HCMV infection

IN Zhu, Hua; Gingeras, Thomas; Shenk, Thomas

PA Affymetrix, Inc., USA

SO PCT Int. Appl., 69 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000011218	A1	20000302	WO 1999-US18772	19990820
	WO 2000011218	C2	20020829		
	W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	AU 9956776	A1	20000314	AU 1999-56776	19990820
PRAI	US 1998-97708P	P	19980821		
	WO 1999-US18772	W	19990820		

RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2003 ACS

AN 1998:765634 CAPLUS

DN 130:137555

TI Cellular gene expression altered by human **cytomegalovirus**:  
global monitoring with oligonucleotide arrays

AU Zhu, Hua; Cong, Jian-Ping; Mamtora, Gargi; Gingeras, Thomas; Shenk, Thomas

CS Howard Hughes Medical Institute, Department of Molecular Biology,  
Princeton University, Princeton, NJ, 08544, USA

SO Proceedings of the National Academy of Sciences of the United States of  
America (1998), 95(24), 14470-14475

CODEN: PNASA6; ISSN: 0027-8424

PB National Academy of Sciences

DT Journal

LA English

RE.CNT 58 THERE ARE 58 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d 115 1-4 ab

L15 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2003 ACS

AB The role of certain cellular kinases active during human  
**cytomegalovirus** infection is disclosed. These cellular kinases  
are useful to detect HCMV infection, and can be used to screen for  
cellular **kinase** inhibitors. Cellular kinases inhibitors, which  
effectively downregulate these key cellular components, serve as effective  
therapeutics against HCMV infection.

L15 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2003 ACS

AB The present invention provides compns. and methods for the prevention or  
treatment of autoimmune disorders using DNA vaccine encoding a  
self-antigen. In particular, the invention methods utilize plasmid vector  
encoding at least a portion of an autoreactive epitope that, upon  
administration to a subject, acts to modulate the immune system thereby

ameliorating conditions assocd. with an autoreactive antigen. The compns. and methods of the invention include co-administration of another vector encoding a biol. response modifier (e.g., a cytokine, chemokine, interferon, interleukin) for the effective induction of regulatory cytokines to down-regulate the immune system of a mammal having an autoimmune condition. The invention is exemplified by the treatment or prevention of insulin dependent diabetes in a murine model using **RIP-LCMV-NP**: transgenic mouse line that expresses lymphocytic choriomeningitis virus nucleoprotein under control of the rat insulin promoter. The exemplary autoreactive epitope used is from insulin .beta. chain. **RIP-NP** transgenic mice are treated with pCMV-NP with pCMV-ins-B and LCMV-specific CTL responses are evaluated. The studies compare the progression of diabetes in immunized and non-immunized mice and show that the transfer of splenocytes from insulin-B protected mice prevents IDDM and the self-reactive (LCMV-NP) CTL activity in pCMV-B protected mice is reduced.

L15 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2003 ACS

AB The invention provides methods, compns., and app. for studying the complex regulatory relationships among host genes and viruses, in particular HCMV. The invention also provides cellular mRNAs whose levels change by a factor of four or more after infection with HCMV. Such genes are likely those involved in mediating the pathol. of the infected tissues. Thus by identifying agents which are able to reverse the induction or repression of such genes, one can find candidate therapeutic agents for use in treating and or preventing HCMV-caused disease pathologies.

L15 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2003 ACS

AB Mechanistic insights to viral replication and pathogenesis generally have come from the anal. of viral gene products, either by studying their biochem. activities and interactions individually or by creating mutant viruses and analyzing their phenotype. Now it is possible to identify and catalog the host cell genes whose mRNA levels change in response to a pathogen. We have used DNA array technol. to monitor the level of .apprx. 6,600 human mRNAs in uninfected as compared with human **cytomegalovirus**-infected cells. The level of 258 mRNAs changed by a factor of 4 or more before the onset of viral DNA replication. Several of these mRNAs encode gene products that might play key roles in virus-induced pathogenesis, identifying them as intriguing targets for further study.



PubMed	Nucleotide	Protein	Genome	Structure	PMC	Taxonomy	OMIM	Bo
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Items 1-20 of 557						Page 1	of 28 Next		

## Entrez PubMed

- ☐ 1: [Daub H, Blencke S, Habenberger P, Kurtenbach A, Dennenmoser J, Wissing J, Ullrich A, Cotten M.](#) [Related Articles, Links](#)

Identification of SRPK1 and SRPK2 as the major cellular protein kinases phosphorylating hepatitis B virus core protein.  
J Virol. 2002 Aug;76(16):8124-37.  
PMID: 12134018 [PubMed - indexed for MEDLINE]

## PubMed Services

- ☐ 2: [Kau JH, Ting LP.](#) [Related Articles, Links](#)

Phosphorylation of the core protein of hepatitis B virus by a 46-kilodalton serine kinase.  
J Virol. 1998 May;72(5):3796-803.  
PMID: 9557662 [PubMed - indexed for MEDLINE]

- ☐ 3: [Shih CM, Chen CM, Chen SY, Lee YH.](#) [Related Articles, Links](#)

Modulation of the trans-suppression activity of hepatitis C virus core protein by phosphorylation.  
J Virol. 1995 Feb;69(2):1160-71.  
PMID: 7815494 [PubMed - indexed for MEDLINE]

## Related Resources

- ☐ 4: [Lan YT, Li J, Liao W, Ou J.](#) [Related Articles, Links](#)


Roles of the three major phosphorylation sites of hepatitis B virus core protein in viral replication.  
Virology. 1999 Jul 5;259(2):342-8.  
PMID: 10388659 [PubMed - indexed for MEDLINE]

- ☐ 5: [Kann M, Gerlich WH.](#) [Related Articles, Links](#)

Effect of core protein phosphorylation by protein kinase C on encapsidation of RNA within core particles of hepatitis B virus.  
J Virol. 1994 Dec;68(12):7993-8000.  
PMID: 7966589 [PubMed - indexed for MEDLINE]

- ☐ 6: [Gazina EV, Fielding JE, Lin B, Anderson DA.](#) [Related Articles, Links](#)

Core protein phosphorylation modulates pregenomic RNA encapsidation to different extents in human and duck hepatitis B viruses.  
J Virol. 2000 May;74(10):4721-8.  
PMID: 10775610 [PubMed - indexed for MEDLINE]

 **7:** [Huang CJ, Chen YH, Ting LP.](#) Related Articles, Links



**Hepatitis B virus core protein interacts with the C-terminal region of actin-binding protein.**

J Biomed Sci. 2000 Mar-Apr;7(2):160-8.

PMID: 10754391 [PubMed - indexed for MEDLINE]

 **8:** [Shih CM, Lo SJ, Miyamura T, Chen SY, Lee YH.](#) Related Articles, Links



**Suppression of hepatitis B virus expression and replication by hepatitis C virus core protein in HuH-7 cells.**

J Virol. 1993 Oct;67(10):5823-32.

PMID: 8396658 [PubMed - indexed for MEDLINE]


 **9:** [Duclos-Vallee JC, Capel F, Mabit H, Petit MA.](#) Related Articles, Links



**Phosphorylation of the hepatitis B virus core protein by glyceraldehyde-3-phosphate dehydrogenase protein kinase activity.**

J Gen Virol. 1998 Jul;79 ( Pt 7):1665-70.

PMID: 9680129 [PubMed - indexed for MEDLINE]


 **10:** [Chen SY, Kao CF, Chen CM, Shih CM, Hsu MJ, Chao CH, Wang SH, You LR, Lee YH.](#) Related Articles, Links



**Mechanisms for inhibition of hepatitis B virus gene expression and replication by hepatitis C virus core protein.**

J Biol Chem. 2003 Jan 3;278(1):591-607. Epub 2002 Oct 24.

PMID: 12401801 [PubMed - indexed for MEDLINE]


 **11:** [Schlicht HJ, Bartenschlager R, Schaller H.](#) Related Articles, Links



**The duck hepatitis B virus core protein contains a highly phosphorylated C terminus that is essential for replication but not for RNA packaging.**

J Virol. 1989 Jul;63(7):2995-3000.

PMID: 2724419 [PubMed - indexed for MEDLINE]

 **12:** [Koizumi J, Okamoto Y, Onogi H, Mayeda A, Krainer AR, Hagiwara M.](#) Related Articles, Links



**The subcellular localization of SF2/ASF is regulated by direct interaction with SR protein kinases (SRPKs).**

J Biol Chem. 1999 Apr 16;274(16):11125-31.

PMID: 10196197 [PubMed - indexed for MEDLINE]


 **13:** [Aoki H, Hayashi J, Moriyama M, Arakawa Y, Hino O.](#) Related Articles, Links



**Hepatitis C virus core protein interacts with 14-3-3 protein and activates the kinase Raf-1.**

J Virol. 2000 Feb;74(4):1736-41.

PMID: 10644344 [PubMed - indexed for MEDLINE]

 **14:** [Chen KL, Chen CM, Shih CM, Huang HL, Lee YH, Chang C, Lo SJ.](#) Related Articles, Links



**Hepatitis B viral polymerase fusion proteins are biologically active and can interact with the hepatitis C virus core protein in vivo.**

J Biomed Sci. 2001 Nov-Dec;8(6):492-503.

PMID: 11702013 [PubMed - indexed for MEDLINE]

- ☐ **15:** [Scaglioni PP, Melegari M, Wands JR.](#) [Related Articles, Links](#)



**Characterization of hepatitis B virus core mutants that inhibit viral replication.**

Virology. 1994 Nov 15;205(1):112-20.

PMID: 7975206 [PubMed - indexed for MEDLINE]

- ☐ **16:** [Booher RN, Holman PS, Fattaey A.](#) [Related Articles, Links](#)



**Human Myt1 is a cell cycle-regulated kinase that inhibits Cdc2 but not Cdk2 activity.**

J Biol Chem. 1997 Aug 29;272(35):22300-6.

PMID: 9268380 [PubMed - indexed for MEDLINE]

- ☐ **17:** [Hui EK, Chen KL, Lo SJ.](#) [Related Articles, Links](#)



**Hepatitis B virus maturation is affected by the incorporation of core proteins having a C-terminal substitution of arginine or lysine stretches.**

J Gen Virol. 1999 Oct;80 ( Pt 10):2661-71.

PMID: 10573159 [PubMed - indexed for MEDLINE]

- ☐ **18:** [Manenti S, Yamauchi E, Sorokine O, Knibiehler M, Van Dorsselaer A, Taniguchi H, Ducommun B, Darbon JM.](#) [Related Articles, Links](#)



**Phosphorylation of the myristoylated protein kinase C substrate MARCKS by the cyclin E-cyclin-dependent kinase 2 complex in vitro.**

Biochem J. 1999 Jun 15;340 ( Pt 3):775-82.

PMID: 10359664 [PubMed - indexed for MEDLINE]

- ☐ **19:** [Baumert TF, Rogers SA, Hasegawa K, Liang TJ.](#) [Related Articles, Links](#)



**Two core promotor mutations identified in a hepatitis B virus strain associated with fulminant hepatitis result in enhanced viral replication.**

J Clin Invest. 1996 Nov 15;98(10):2268-76.

PMID: 8941643 [PubMed - indexed for MEDLINE]

- ☐ **20:** [Metzger K, Bringas R.](#) [Related Articles, Links](#)



**Proline-138 is essential for the assembly of hepatitis B virus core protein.**

J Gen Virol. 1998 Mar;79 ( Pt 3):587-90.

PMID: 9519838 [PubMed - indexed for MEDLINE]

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Items 1-20 of 557				Page	1	of 28 Next

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Jun 12 2003 10:19:17

**WEST**

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L13: Entry 1 of 7

File: DWPI

May 1, 2003

DERWENT-ACC-NO: 2002-373930

DERWENT-WEEK: 200331

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TITLE: Identifying agents for treatment or prevention of cytomegalovirus infection, comprises contacting test compound with cellular kinase and detecting change in cellular kinase activity

INVENTOR: BEVEC, D; HABENBERGER, P ; SCHUBART, D ; STEIN-GERLACH, M

PRIORITY-DATA: 2000US-240750P (October 16, 2000), 2001US-0981397 (October 16, 2001)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 20030082519 A1	May 1, 2003		000	A61K039/395
EP 1201765 A2	May 2, 2002	E	049	C12Q001/48

INT-CL (IPC): A01 N 61/00; A61 K 31/00; A61 K 39/395; A61 K 48/00; A61 P 31/12; C07 K 16/00; C12 P 21/06; C12 Q 1/48; C12 Q 1/68; C12 Q 1/70; G01 N 33/53

ABSTRACTED-PUB-NO: EP 1201765A

## BASIC-ABSTRACT:

NOVELTY - Identifying compounds (A) for treating and/or preventing cytomegalovirus (CMV) infection and/or related diseases comprising contacting a test compound with at least one of the cellular kinases RICK, RIP, Nck-Interacting kinase, MKK3 and SRPK-2 (undefined) and detecting any change in kinase activity, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) detecting CMV infection and/or related diseases by detecting activity of any of the specified kinases in a patient sample, cells or cell lysates;
- (2) mono- or poly-clonal antibodies (Ab) that bind to any of the specified kinases;
- (3) preventing and/or treating CMV infection or related diseases, or for regulating production of CMV in an individual or cells, by administering an inhibitor or activator of any of the specified kinases;
- (4) oligonucleotides (ON) that bind to RNA or DNA encoding any of the specified kinases;
- (5) regulating expression of any of the specified kinases by administering to an individual, or cells, an inhibitor or activator of transcription of the relevant DNA or translation of the relevant RNA;
- (6) solid support for detecting CMV infection in an individual or cell comprising at least one immobilized ON able to detect activity of any of the specified kinases; and
- (7) solid support for screening (A) comprising one or more immobilized ON that encode any of the specified kinases or these kinases themselves.

ACTIVITY - Virucide. RICK was transiently overexpressed, as a fusion with a hemagglutinin (HA) tag, in human embryonic kidney 293 cells, then immunoprecipitated



**WEST**[Generate Collection](#)[Print](#)**Search Results - Record(s) 1 through 7 of 7 returned.**☐ 1. Document ID: US 20030082519 A1 EP 1201765 A2

L13: Entry 1 of 7

File: DWPI

May 1, 2003

DERWENT-ACC-NO: 2002-373930

DERWENT-WEEK: 200331

COPYRIGHT 2003 DERWENT INFORMATION LTD

TITLE: Identifying agents for treatment or prevention of cytomegalovirus infection, comprises contacting test compound with cellular kinase and detecting change in cellular kinase activity

INVENTOR: BEVEC, D; HABENBERGER, P ; SCHUBART, D ; STEIN-GERLACH, M

PRIORITY-DATA: 2000US-240750P (October 16, 2000), 2001US-0981397 (October 16, 2001)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 20030082519 A1	May 1, 2003		000	A61K039/395
EP 1201765 A2	May 2, 2002	E	049	C12Q001/48

INT-CL (IPC): A01 N 61/00; A61 K 31/00; A61 K 39/395; A61 K 48/00; A61 P 31/12; C07 K 16/00; C12 P 21/06; C12 Q 1/48; C12 Q 1/68; C12 Q 1/70; G01 N 33/53

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWC
Draw	Desc	Image									

☐ 2. Document ID: WO 200226780 A2 AU 200196333 A

L13: Entry 2 of 7

File: DWPI

Apr 4, 2002

DERWENT-ACC-NO: 2002-471256

DERWENT-WEEK: 200252

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TITLE: Novel isolated PAAD domain containing polypeptide useful for inducing apoptosis by inhibiting nuclear factor kappa B activation and in gene therapy for treating cancer

INVENTOR: ARIZA, M E; CHU, Z ; FIORENTINO, L ; GODZIK, A ; PAWLOWSKI, K ; REED, J C ; STEHLIK, C

PRIORITY-DATA: 2000US-0671760 (September 26, 2000)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 200226780 A2	April 4, 2002	E	145	C07K014/00
AU 200196333 A	April 8, 2002		000	C07K014/00

INT-CL (IPC): C07 K 14/00

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC
Draw Desc	Image										

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☐ 3. Document ID: WO 200168908 A2 US 6365366 B1 AU 200140147 A

L13: Entry 3 of 7

File: DWPI

Sep 20, 2001

DERWENT-ACC-NO: 2001-602750

DERWENT-WEEK: 200226

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TITLE: Assaying for detecting T2K kinase activity comprises incubating mixture comprising an active T2K kinase and a substrate under conditions where the kinase phosphorylate the substrate at a first rate and detecting the first rate

INVENTOR: CAO, Z

PRIORITY-DATA: 2000US-0524435 (March 13, 2000)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 200168908 A2	September 20, 2001	E	017	C12Q001/48
US 6365366 B1	April 2, 2002		000	C12Q001/42
AU 200140147 A	September 24, 2001		000	C12Q001/48

INT-CL (IPC): A61 K 38/00; C12 Q 1/00; C12 Q 1/42; C12 Q 1/48; G01 N 33/53; G01 N 33/543; G01 N 33/573

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC
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☐ 4. Document ID: US 6211337 B1

L13: Entry 4 of 7

File: DWPI

Apr 3, 2001

DERWENT-ACC-NO: 2001-334617

DERWENT-WEEK: 200135

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TITLE: New receptor interacting protein polypeptide having threonine in position 514 useful in screening assays for agents that modulate interaction of protein with its binding targets

INVENTOR: BAICHWAL, V R; GOEDDEL, D V ; HSU, H ; HUANG, J

PRIORITY-DATA: 1998US-0132118 (August 11, 1998), 1995US-0553727 (October 23, 1995)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 6211337 B1	April 3, 2001		010	C07K014/435

INT-CL (IPC): C07 K 14/435

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KWIC
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☐ 5. Document ID: WO 200119990 A1 EP 1214414 A2 AU 200111880 A

L13: Entry 5 of 7

File: DWPI

Mar 22, 2001

DERWENT-ACC-NO: 2001-244803

DERWENT-WEEK: 200240

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TITLE: New isolated RIP-3-like-death-associated kinase polypeptide for treating multiple sclerosis, Parkinson's disease, Sjogren's disease, infections, tumors, cardiovascular and lymphoproliferative disorders

INVENTOR: BIRD, T A; VIRCA, G D

PRIORITY-DATA: 1999US-154422P (September 17, 1999)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 200119990 A1	March 22, 2001	E	063	C12N015/12
EP 1214414 A2	June 19, 2002	E	000	C12N015/12
AU 200111880 A	April 17, 2001		000	C12N015/12

INT-CL (IPC): A61 K 38/17; C07 K 14/47; C07 K 16/18; C07 K 16/40; C12 N 9/12; C12 N 15/12; G01 N 33/68

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KWIC
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☐ 6. Document ID: WO 9715586 A1 US 20020098522 A1 AU 9674577 A

L13: Entry 6 of 7

File: DWPI

May 1, 1997

DERWENT-ACC-NO: 1997-258948

DERWENT-WEEK: 200254

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TITLE: cDNA encoding human receptor interaction protein or its kinase domain - useful for identifying lead compounds, and for development of therapeutic and diagnostic agents that modulate hRIP activity or signal transduction

INVENTOR: BAICHWAL, V R; GOEDDEL, D V ; HSU, H ; HUANG, J

PRIORITY-DATA: 1995US-0553727 (October 23, 1995), 1998US-0132118 (August 11, 1998), 2001US-0758003 (January 9, 2001)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 9715586 A1	May 1, 1997	E	022	C07H021/04
US 20020098522 A1	July 25, 2002		000	G01N033/53
AU 9674577 A	May 15, 1997		000	C07H021/04

INT-CL (IPC): C07 H 21/04; C07 K 1/00; C07 K 14/52; C12 N 1/20; C12 N 5/06; C12 N 9/12; C12 N 15/00; C12 P 21/02; C12 P 21/06; G01 N 33/53; G01 N 33/542

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	KWIC
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☐ 7. Document ID: WO 9636730 A1 AU 707598 B AU 9654873 A US 5674734 A EP  
852627 A1 JP 11506317 W

L13: Entry 7 of 7

File: DWPI

Nov 21, 1996

DERWENT-ACC-NO: 1997-012100

DERWENT-WEEK: 199939

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TITLE: Receptor interacting protein having death and kinase domain - useful to control diseases that involve abnormal apoptosis, and for diagnosis and drug screening

INVENTOR: KIM, E; LEDER, P ; LEE, T ; SEED, B ; STRANGER, B Z ; STANGER, B Z

PRIORITY-DATA: 1995US-0444005 (May 18, 1995)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 9636730 A1	November 21, 1996	E	064	C12Q001/68
AU 707598 B	July 15, 1999		000	C12Q001/68
AU 9654873 A	November 29, 1996		000	C12Q001/68
US 5674734 A	October 7, 1997		024	C12N001/20
EP 852627 A1	July 15, 1998	E	000	C12Q001/68
JP 11506317 W	June 8, 1999		064	C12N015/09

INT-CL (IPC): A01 N 43/04; A61 K 48/00; C07 H 21/02; C07 H 21/04; C07 K 1/00; C07 K 14/46; C07 K 16/00; C07 K 16/18; C12 N 1/20; C12 N 5/00; C12 N 5/10; C12 N 15/09; C12 P 21/02; C12 P 21/04; C12 P 21/06; C12 P 21/08; C12 Q 1/02; C12 Q 1/68; G01 N 33/00; G01 N 33/15; G01 N 33/35; G01 N 33/48; G01 N 33/53; G01 N 33/577; C12 P 21/02; C12 R 1:91

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side by side			result set
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L24	5384261.pn.	1	L24
L23	6087102.pn.	1	L23
L22	kinase and hcmv.clm.	51	L22
<i>DB=PGPB; PLUR=YES; OP=ADJ</i>			
L21	kinase and hcmv.clm.	20	L21
L20	kinase and hcmv	387	L20
L19	RIP and HCMV	11	L19
<i>DB=JPAB; PLUR=YES; OP=ADJ</i>			
L18	RIP and HCMV	0	L18
<i>DB=EPAB; PLUR=YES; OP=ADJ</i>			
L17	RIP and HCMV	0	L17
<i>DB=DWPI; PLUR=YES; OP=ADJ</i>			
L16	RIP and HCMV	0	L16
L15	RIP and kinase and HCMV	0	L15
L14	RIP and kinase and herpes	0	L14
L13	RIP and kinase	7	L13
<i>DB=USPT; PLUR=YES; OP=ADJ</i>			
L12	L7 and kinase	12	L12
L11	RIP adj kinse	0	L11
L10	RIP and kinse	1	L10
L9	receptor interacting protein and hcmv	3	L9
L8	RIP and HCMV.clm.	1	L8
L7	RIP and HCMV	20	L7
L6	6558903.pn.	1	L6
L5	6211337.pn. and herpes	0	L5
L4	6211337.pn. and cytomegalovirus	0	L4
L3	6211337.pn. and virus	0	L3
L2	6211337.pn.	1	L2
L1	621137.pn.	0	L1

END OF SEARCH HISTORY

**WEST****End of Result Set**

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L6: Entry 1 of 1

File: USPT

May 6, 2003

US-PAT-NO: 6558903

DOCUMENT-IDENTIFIER: US 6558903 B1

TITLE: Kinases and uses thereof

DATE-ISSUED: May 6, 2003

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hodge; Martin R.	Arlington	MA		

US-CL-CURRENT: 435/6; 435/194, 435/252.3, 435/320.1, 435/325, 536/23.2

## CLAIMS:

What is claimed is:

1. An isolated nucleic acid molecule selected from the group consisting of: a) a nucleic acid molecule comprising a nucleotide sequence that encodes a polypeptide having a kinase protein activity and which is at least 85% identical to the nucleotide sequence of SEQ ID NO:1, to nucleotides 191-1156 of SEQ ID NO:1, or a complement thereof; b) a nucleic acid molecule comprising a fragment of at least 325 nucleotides of the nucleotide sequence of SEQ ID NO:1 or a complement thereof, wherein said fragment encodes a polypeptide having a kinase protein activity; c) a nucleic acid molecule which encodes a polypeptide comprising the amino acid sequence of SEQ ID NO:2; d) a nucleic acid molecule which encodes a fragment of a polypeptide comprising the amino acid sequence of SEQ ID NO:2; wherein the fragment has a kinase protein activity and comprises at least 75 contiguous amino acids of SEQ ID NO:2; and e) a nucleic acid molecule which encodes a variant of the polypeptide comprising the amino acid sequence of SEQ ID NO:2, said variant having a kinase protein activity, wherein the nucleic acid molecule hybridizes to a nucleic acid molecule comprising SEQ ID NO:1, nucleotides 191-1156 of SEQ ID NO:1, or a complement thereof under stringent conditions, said stringent conditions comprising hybridization in 6.times.SSC at 42.degree. C., followed by washing with 1.times.SSC at 55.degree. C.
2. The isolated nucleic acid molecule of claim 1, which is selected from the group consisting of: a) a nucleic acid molecule comprising the nucleotide sequence of SEQ ID NO:1, nucleotides 191-1156 of SEQ ID NO:1, or a complement thereof; and b) a nucleic acid molecule which encodes a polypeptide comprising the amino acid sequence of SEQ ID NO:2.
3. The nucleic acid molecule of claim 1 further comprising vector nucleic acid sequences.
4. The nucleic acid molecule of claim 1 further comprising nucleic acid sequences encoding a heterologous polypeptide.
5. A host cell which contains the nucleic acid molecule of claim 1.

6. The host cell of claim 5 which is a mammalian host cell.
7. A nonhuman mammalian host cell containing the nucleic acid molecule of claim 1.
8. A method for producing a polypeptide selected from the group consisting of:  
a) a polypeptide comprising the amino acid sequence of SEQ ID NO:2; b) a polypeptide comprising a fragment of the amino acid sequence of SEQ ID NO:2, wherein the fragment has a kinase protein activity and comprises at least 75 contiguous amino acids of SEQ ID NO:2; and c) a variant of the polypeptide comprising the amino acid sequence of SEQ ID NO:2, said variant having a kinase protein activity, wherein the polypeptide is encoded by a nucleic acid molecule which hybridizes to a nucleic acid molecule comprising SEQ ID NO:1, nucleotides 191-1156 of SEQ ID NO:1, or a complement thereof under stringent conditions, said stringent conditions comprising hybridization in 6.times.SSC at 42.degree. C., followed by washing with 1.times.SSC at 55.degree. C.;
- comprising culturing the host cell of claim 5 under conditions in which the nucleic acid molecule is expressed.
9. The method of claim 8, wherein said polypeptide comprises the amino acid sequence of SEQ ID NO:2.
10. A method for detecting the presence of a nucleic acid molecule in a sample, comprising the steps of: a) contacting the sample with a nucleic acid probe or primer which selectively hybridizes to said nucleic acid molecule, wherein said nucleic acid probe or primer comprises the nucleic acid molecule of claim 1; and b) determining whether the nucleic acid probe or primer binds to a nucleic acid molecule in the sample.
11. The method of claim 10, wherein the sample comprises mRNA molecules and is contacted with a nucleic acid probe.
12. An isolated nucleic acid molecule comprising the nucleotide sequence of SEQ ID NO:1, nucleotides 191-1156 of SEQ ID NO:1, or a complement thereof.
13. The nucleic acid molecule of claim 12 further comprising vector nucleic acid sequences.
14. The nucleic acid molecule of claim 12 further comprising nucleic acid sequences encoding a heterologous polypeptide.
15. A host cell which contains the nucleic acid molecule of claim 12.
16. The host cell of claim 15 which is a mammalian host cell.
17. A nonhuman mammalian host cell containing the nucleic acid molecule of claim 12.
18. An isolated nucleic acid molecule comprising a nucleic acid sequence which encodes a polypeptide comprising the amino acid sequence of SEQ ID NO:2.
19. The nucleic acid molecule of claim 18 further comprising vector nucleic acid sequences.
20. The nucleic acid molecule of claim 18 further comprising nucleic acid sequences encoding a heterologous polypeptide.
21. A host cell which contains the nucleic acid molecule of claim 18.
22. The host cell of claim 21 which is a mammalian host cell.

23. A nonhuman mammalian host cell containing the nucleic acid molecule of claim 18.

24. An isolated nucleic acid molecule comprising a nucleotide sequence that encodes a polypeptide having a kinase protein activity and which is at least 85% identical to the nucleotide sequence of SEQ ID NO:1, nucleotides 191-1156 of SEQ ID NO:1, or a complement thereof.

25. The nucleic acid molecule of claim 24 further comprising vector nucleic acid sequences.

26. The nucleic acid molecule of claim 24 further comprising nucleic acid sequences encoding a heterologous polypeptide.

27. A host cell which contains the nucleic acid molecule of claim 24.

28. The host cell of claim 27 which is a mammalian host cell.

29. A nonhuman mammalian host cell containing the nucleic acid molecule of claim 24.

30. An isolated nucleic acid molecule comprising a fragment of at least 325 nucleotides of the nucleotide sequence of SEQ ID NO:1 or a complement thereof, wherein said fragment encodes a polypeptide having a kinase protein activity.

31. The nucleic acid molecule of claim 30 further comprising vector nucleic acid sequences.

32. The nucleic acid molecule of claim 30 further comprising nucleic acid sequences encoding heterologous polypeptide.

33. A host cell which contains the nucleic acid molecule of claim 30.

34. The host cell of claim 33 which is a mammalian host cell.

35. A nonhuman mammalian host cell containing the nucleic acid molecule of claim 30.

36. An isolated nucleic acid molecule which encodes a fragment of a polypeptide comprising the amino acid sequence of SEQ ID NO:2, wherein the fragment has a kinase protein activity and comprises at least 75 contiguous amino acids of SEQ ID NO:2.

37. The nucleic acid molecule of claim 36 further comprising vector nucleic acid sequences.

38. The nucleic acid molecule of claim 36 further comprising nucleic acid sequences encoding a heterologous polypeptide.

39. A host cell which contains the nucleic acid molecule of claim 36.

40. The host cell of claim 39 which is a mammalian host cell.

41. A nonhuman mammalian host cell containing the nucleic acid molecule of claim 36.

42. A nucleic acid molecule which encodes a variant of the polypeptide comprising the amino acid sequence of SEQ ID NO:2, said variant having a kinase protein activity, wherein the nucleic acid molecule hybridizes to a nucleic acid molecule comprising SEQ ID NO:1, nucleotides 191-1156 of SEQ ID NO:1, or a complement thereof, under stringent conditions, said stringent conditions



comprising hybridization in 6.times.SSC at 42.degree. C., followed by washing with 1.times.SSC at 55.degree. C.

43. The nucleic acid molecule of claim 42 further comprising vector nucleic acid sequences.

44. The nucleic acid molecule of claim 42 further comprising nucleic acid sequences encoding a heterologous polypeptide.

45. A host cell which contains the nucleic acid molecule of claim 42.

46. The host cell of claim 45 which is a mammalian host cell.

47. A nonhuman mammalian host cell containing the nucleic acid molecule of claim 42.

48. A method for producing a polypeptide comprising the amino acid sequence of SEQ ID NO:2, said method comprising culturing the host cell of claim 15 under conditions in which the nucleic acid molecule is expressed.

49. A method for producing a polypeptide comprising a fragment of the amino acid sequence of SEQ ID NO:2, wherein the fragment has a kinase protein activity and comprises at least 75 contiguous amino acids of SEQ ID NO:2 and, said method comprising culturing the host cell of claim 39 under conditions in which the nucleic acid molecule is expressed.

50. A method for producing a variant of a polypeptide comprising the amino acid sequence of SEQ ID NO:2, said variant having a kinase protein activity, wherein the polypeptide is encoded by a nucleic acid molecule which hybridizes to a nucleic acid molecule comprising SEQ ID NO:1, nucleotides 191-1156 of SEQ ID NO:1, or a complement thereof under stringent conditions, said stringent conditions comprising hybridization in 6.times.SSC at 42.degree. C., followed by washing with 1.times.SSC at 55.degree. C.; said method comprising culturing the host cell of claim 45 under conditions in which the nucleic acid molecule is expressed.

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L4: Entry 2 of 2

File: DWPI

Mar 18, 1999

DERWENT-ACC-NO: 1999-243729  
DERWENT-WEEK: 199920  
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TITLE: New isolated human genes to obtain agents for antiviral therapy, particularly anti-HCMV therapy

INVENTOR: CONG, J; SCHENK, T ; ZHU, H

PRIORITY-DATA: 1997US-059725P (September 22, 1997), 1997US-058180P (September 8, 1997)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 9913075 A2	March 18, 1999	E	183	C12N015/12
AU 9891316 A	March 29, 1999		000	C12N015/12

INT-CL (IPC): C07 K 14/47; C07 K 16/18; C12 N 15/11; C12 N 15/12; C12 Q 1/68

ABSTRACTED-PUB-NO: WO 9913075A

## BASIC-ABSTRACT:

NOVELTY - (A) A novel set of human genes, the expression of which is specifically modulated by human cytomegalovirus (HCMV) comprises:

(a) genes that are induced to express by both HCMV and interferon (IFN) designated HCMV-inducible genes (cig or cigs); and

(b) genes that repressed in the presence of HCMV infection, designated HCMV-repressible genes (crg or crgs).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) a cig as in (A) which is a cDNA having a nucleotide sequence (NS) selected from sequences (I), (III), (V), (VII), (IX), (XI), (XIII), (XV) (XVII), (IX), (XXI)-(XXVI), (XXVIII), (XXX) and (XXXII) given in the specification (280, 5378, 2881, 976, 1335, 2567, 1347, 2107, 2056, 4573, 3200, 324, 456, 397, 272, 2651, 556, 1360 and 840 nucleotides in length respectively);

(2) a cig as in (A) which is a polypeptide having an amino acid sequence selected from sequences (II), (IV), (VI), (VIII), (X), (XII), (XIV), (XVI), (XVIII), (XX), (XXVII), (XXIX), (XXXI) and (XXXIII) given in the specification (34, 335, 592, 211, 444, 471, 364, 561, 490, 531, 662, 165, 402, and 187 amino acids in length respectively);

(3) a crg as in (A) which is a cDNA having a NS selected from sequences (XXXIV), (XXXVI), (XXXVIII) and (XXXIX) given in the specification (1637, 2599, 1072, and 672 nucleotides in length respectively);

(4) a crg as in (A) which is a polypeptide having an amino acid sequence selected from sequences (XXXV) and (XXXVII) shown (394 and 13 amino acids in length respectively);

(5) a DNA sequence that hybridizes to any of the NSs as in (1)-(3), and degenerate variants;

- (6) a recombinant DNA molecule comprising a DNA sequence as in (1) or (3), and degenerate variants;
- (7) a probe capable of screening for the cigs or crgs in alternate species prepared from a DNA sequence as in (5);
- (8) a unicellular host transformed with a recombinant DNA molecule comprising a DNA sequence or degenerate variant which encodes a cig or crg gene product, or a fragment selected from sequences (I), (III), (V), (VII), (IX), (XI), (XIII), (XV), (XVII), (XIX), (XXI)-(XXVI), (XXVIII), (XXX), (XXXII), (XXXIV), (XXXVI), (XXXVIII) and (XXXIX), where the DNA sequence is operatively linked to an expression control sequence;
- (9) an antibody to a polypeptide sequence as in (2) or (4);
- (10) an immortal cell line that produces a monoclonal antibody as in (9);
- (11) an antisense nucleic acid against a cig mRNA comprising a nucleic acid sequence hybridizing to the mRNA;
- (12) a recombinant DNA molecule having a DNA sequence which, on transcription, produces an antisense ribonucleic acid against a cig mRNA, the antisense ribonucleic acid comprising a nucleic acid sequence capable of hybridizing to the mRNA;
- (13) a cig gene product-producing cell line transfected with a recombinant DNA molecule as in (12);
- (14) a ribozyme that cleave cig mRNA;
- (15) a recombinant DNA molecule having a DNA sequence which, upon transcription, produces a ribozyme as in (14);
- (16) a cig mRNA-producing cell line transfected with a recombinant DNA molecule as in (15);
- (17) a crg gene product (protein) used as an antiviral or anti-HCMV therapeutic;
- (18) a cig gene product (protein) used in conjunction with IFN therapy to reduce toxicity of the IFN and thus allow administration of higher doses of the IFN.

USE - The products can be used to obtain agents which can be used for anti-viral therapy, particularly anti-HCMV therapy. They can also be used for the development of drugs that would allow for higher dosage IFN treatments without the concomitant toxicity normally associated with administering high levels of IFN. The products can also be used for detection, diagnosis and drug screening.

ABSTRACTED-PUB-NO: WO 9913075A  
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.0/6

**WEST**[Generate Collection](#)[Print](#)**Search Results - Record(s) 1 through 2 of 2 returned.**☐ 1. Document ID: WO 200011218 A1 AU 9956776 A

L4: Entry 1 of 2

File: DWPI

Mar 2, 2000

DERWENT-ACC-NO: 2000-292508

DERWENT-WEEK: 200025

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TITLE: Determination of stage of disease and extent of tissue damage caused by human cytomegalovirus infection, allowing identification of agents which are able to reverse the induction

INVENTOR: GINGERAS, T; SHENK, T ; ZHU, H

PRIORITY-DATA: 1998US-097708P (August 21, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 200011218 A1	March 2, 2000	E	067	C12Q001/68
AU 9956776 A	March 14, 2000		000	C12Q001/68

INT-CL (IPC): A61 B 5/00; C12 Q 1/68; C12 Q 1/70; G01 N 35/00

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC
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☐ 2. Document ID: WO 9913075 A2 AU 9891316 A

L4: Entry 2 of 2

File: DWPI

Mar 18, 1999

DERWENT-ACC-NO: 1999-243729

DERWENT-WEEK: 199920

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TITLE: New isolated human genes to obtain agents for antiviral therapy, particularly anti-HCMV therapyINVENTOR: CONG, J; SCHENK, T ; ZHU, H

PRIORITY-DATA: 1997US-059725P (September 22, 1997), 1997US-058180P (September 8, 1997)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 9913075 A2	March 18, 1999	E	183	C12N015/12
AU 9891316 A	March 29, 1999		000	C12N015/12

INT-CL (IPC): C07 K 14/47; C07 K 16/18; C12 N 15/11; C12 N 15/12; C12 Q 1/68

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMC
Draw Desc	Image										

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Terms	Documents
L1 and HCMV	2

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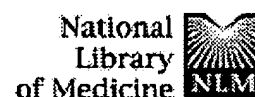
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## WEST Search History

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L4	L1 and HCMV	2	L4
L3	Gingeras T.in. and HCMV	1	L3
L2	Gingeras T.in.	26	L2
L1	Zhu H.in.	313	L1

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## Entrez PubMed

- ☐ 1: [Zhu H, Cong JP, Mamtora G, Gingeras T, Shenk T.](#) [Related Articles, Links](#)



Cellular gene expression altered by human cytomegalovirus: global monitoring with oligonucleotide arrays.

Proc Natl Acad Sci U S A. 1998 Nov 24;95(24):14470-5.

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- ☐ 2: [Browne EP, Wing B, Coleman D, Shenk T.](#) [Related Articles, Links](#)



Altered cellular mRNA levels in human cytomegalovirus-infected fibroblasts: viral block to the accumulation of antiviral mRNAs.

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- ☐ 3: [Chen J, Stinski MF.](#) [Related Articles, Links](#)



Activation of transcription of the human cytomegalovirus early UL4 promoter by the Ets transcription factor binding element.

J Virol. 2000 Nov;74(21):9845-57.

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## Related Resources

- ☐ 4: [Hassan-Walker AF, Cope AV, Griffiths PD, Emery VC.](#) [Related Articles, Links](#)



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- ☐ 5: [Kenzelmann M, Muhlemann K.](#) [Related Articles, Links](#)



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- ☐ 6: [Wang Z, Tai HH.](#) [Related Articles, Links](#)



Cyclic AMP response element mediates dexamethasone induced suppression of prostaglandin H synthase-2 gene expression in human amnion derived WISH cells.

Prostaglandins Leukot Essent Fatty Acids. 1999 Apr;60(4):243-8.


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-  **7:** [Simmen KA, Singh J, Luukkonen BG, Lopper M, Bittner A, Miller NE, Jackson MR, Compton T, Fruh K.](#) [Related Articles, Links](#)



Global modulation of cellular transcription by human cytomegalovirus is initiated by viral glycoprotein B.


Proc Natl Acad Sci U S A. 2001 Jun 19;98(13):7140-5. Epub 2001 Jun 05.  
PMID: 11390970 [PubMed - indexed for MEDLINE]

-  **8:** [Knight JB, Stinski MF, Stoltzfus CM.](#) [Related Articles, Links](#)



Avian sarcoma virus RNA synthesis, RNA splicing and virus production in human foreskin fibroblasts: effect of co-infection with human cytomegalovirus.


J Gen Virol. 1993 Dec;74 (Pt 12):2629-36.  
PMID: 8277268 [PubMed - indexed for MEDLINE]

-  **9:** [Geiss GK, Bumgarner RE, An MC, Agy MB, van 't Wout AB, Hammersmark E, Carter VS, Upchurch D, Mullins JI, Katze MG.](#) [Related Articles, Links](#)



Large-scale monitoring of host cell gene expression during HIV-1 infection using cDNA microarrays.

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PMID: 10612655 [PubMed - indexed for MEDLINE]

-  **10:** [Geiss GK, An MC, Bumgarner RE, Hammersmark E, Cunningham D, Katze MG.](#) [Related Articles, Links](#)



Global impact of influenza virus on cellular pathways is mediated by both replication-dependent and -independent events.

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-  **11:** [Natarajan K, Shepard LA, Chodosh J.](#) [Related Articles, Links](#)



The use of DNA array technology in studies of ocular viral pathogenesis.


DNA Cell Biol. 2002 May-Jun;21(5-6):483-90. Review.  
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-  **12:** [Bresnahan WA, Shenk T.](#) [Related Articles, Links](#)



A subset of viral transcripts packaged within human cytomegalovirus particles.

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-  **13:** [Wagner A, Doerks A, Aboud M, Alonso A, Tokino T, Flugel RM, Lochelt M.](#) [Related Articles, Links](#)



Induction of cellular genes is mediated by the Bell transactivator in foamy virus-infected human cells.

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- ☐ **14:** [Nakajima T, Nakajima E, Fukiage C, Azuma M, Shearer TR](#) [Related Articles, Links](#)



Differential gene expression in the lens epithelial cells from selenite injected rats.

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- ☐ **15:** [Hirsch AJ, Shenk T](#)

[Related Articles, Links](#)



Human cytomegalovirus inhibits transcription of the CC chemokine MCP-1 gene.

J Virol. 1999 Jan;73(1):404-10.

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- ☐ **16:** [Rosenthal N](#)

[Related Articles, Links](#)



Regulation of gene expression.

N Engl J Med. 1994 Oct 6;331(14):931-3. Review. No abstract available.

PMID: 8078555 [PubMed - indexed for MEDLINE]

- ☐ **17:** [Sato M, Suemori H, Hata N, Asagiri M, Ogasawara K, Nakao K, Nakaya T, Katsuki M, Noguchi S, Tanaka N, Taniguchi T](#) [Related Articles, Links](#)



Distinct and essential roles of transcription factors IRF-3 and IRF-7 in response to viruses for IFN-alpha/beta gene induction.

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- ☐ **18:** [Krasnoselskaya-Riz I, Spruill A, Chen YW, Schuster D, Teslovich T, Baker C, Kumar A, Stephan DA](#)

[Related Articles, Links](#)



Nuclear factor 90 mediates activation of the cellular antiviral expression cascade.

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- ☐ **19:** [Jang SI, Karaman-Jurukovska N, Morasso MI, Steinert PM, Markova NG](#)

[Related Articles, Links](#)



Complex interactions between epidermal POU domain and activator protein 1 transcription factors regulate the expression of the profilaggrin gene in normal human epidermal keratinocytes.

J Biol Chem. 2000 May 19;275(20):15295-304.

PMID: 10809764 [PubMed - indexed for MEDLINE]

- ☐ **20:** [Kalma Y, Marash L, Lamed Y, Ginsberg D](#)

[Related Articles, Links](#)



Expression analysis using DNA microarrays demonstrates that E2F-1 up-regulates expression of DNA replication genes including replication protein A2.

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PMID: 11313881 [PubMed - indexed for MEDLINE]

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Items 1-20 of 109				Page 1	of 6 Next

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L3: Entry 1 of 1

File: DWPI

Mar 2, 2000

DERWENT-ACC-NO: 2000-292508

DERWENT-WEEK: 200025

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TITLE: Determination of stage of disease and extent of tissue damage caused by human cytomegalovirus infection, allowing identification of agents which are able to reverse the induction

INVENTOR: GINGERAS, T; SHENK, T ; ZHU, H

PRIORITY-DATA: 1998US-097708P (August 21, 1998)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 200011218 A1	March 2, 2000	E	067	C12Q001/68
AU 9956776 A	March 14, 2000		000	C12Q001/68

INT-CL (IPC): A61 B 5/00; C12 Q 1/68; C12 Q 1/70; G01 N 35/00

ABSTRACTED-PUB-NO: WO 200011218A

## BASIC-ABSTRACT:

NOVELTY - Methods of determining the stage of disease caused by human cytomegalovirus (HCMV) infection, or extent of tissue damage caused by the infection, by determining the expression levels of one or more genes which are induced or repressed by HCMV, are new.

DETAILED DESCRIPTION - The methods comprise determining the expression levels in a human cell sample of one or more genes, which are induced or repressed by HCMV where the sample comprises HCMV-infected cells, where the expression levels correlate with the disease progression stage, and the extent of tissue damage caused by the infection.

INDEPENDENT CLAIMS are also included for the following:

(1) a method for screening to identify candidate drugs for preventing disease symptoms caused by HCMV, comprising

(a) contacting human cells with HCMV and a test agent;

(b) determining the expression levels of one or more genes which are induced or repressed by HCMV;

(c) identifying a test agent as a candidate drug, if it causes the cells to express the genes at the same level as human cells express the genes in the absence of HCMV;

(2) a method for identifying a subset of genes which are improved targets for drug development, comprising

(a) comparing expression levels of at least two genes in two cell samples, where the samples differ because of a the use of a selected environmental, genetic, disease, or developmental agent;

(b) identifying a set of genes whose expression levels differ between the two cell samples;

(c) searching a database to identify an unselected environmental agent, gene, disease, or developmental stage previously associated with expression or altered expression of individual members of the set of genes;

(d) identifying a common biological feature between the selected environmental, genetic, disease or developmental difference, and the unselected component identified in (c), where identification of a common biological feature which affects expression of a common gene, identifies the gene as being a member of a subset of genes which are improved targets for drug development; and

(3) a computer-readable medium with computer-executable instructions for performing steps (a) - (d) of (2).

ACTIVITY - Antiviral.

MECHANISM OF ACTION - Alteration of gene expression by HCMV.

USE - The methods are used for determining the stage of HCMV disease infection, and the extent of tissue damaged caused by it (claimed). The methods can also be used to identify agents able to reverse the induction or repression of genes involved in the pathology of HCMV infection, (claimed). Therapeutic agents/candidate drugs can be found for treating and or preventing HCMV-caused disease pathologies.

ABSTRACTED-PUB-NO: WO 200011218A  
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.0/4

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L4: Entry 2 of 2

File: DWPI

Mar 18, 1999

DERWENT-ACC-NO: 1999-243729  
DERWENT-WEEK: 199920  
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TITLE: New isolated human genes to obtain agents for antiviral therapy, particularly anti-HCMV therapy

INVENTOR: CONG, J; SCHENK, T ; ZHU, H

PRIORITY-DATA: 1997US-059725P (September 22, 1997), 1997US-058180P (September 8, 1997)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
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ABSTRACTED-PUB-NO: WO 9913075A

## BASIC-ABSTRACT:

NOVELTY - (A) A novel set of human genes, the expression of which is specifically modulated by human cytomegalovirus (HCMV) comprises:

(a) genes that are induced to express by both HCMV and interferon (IFN) designated HCMV-inducible genes (cig or cigs); and

(b) genes that repressed in the presence of HCMV infection, designated HCMV-repressible genes (crg or crgs).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) a cig as in (A) which is a cDNA having a nucleotide sequence (NS) selected from sequences (I), (III), (V), (VII), (IX), (XI), (XIII), (XV) (XVII), (IX), (XXI)-(XXVI), (XXVIII), (XXX) and (XXXII) given in the specification (280, 5378, 2881, 976, 1335, 2567, 1347, 2107, 2056, 4573, 3200, 324, 456, 397, 272, 2651, 556, 1360 and 840 nucleotides in length respectively);

(2) a cig as in (A) which is a polypeptide having an amino acid sequence selected from sequences (II), (IV), (VI), (VIII), (X), (XII), (XIV), (XVI), (XVIII), (XX), (XXVII), (XXIX), (XXXI) and (XXXIII) given in the specification (34, 335, 592, 211, 444, 471, 364, 561, 490, 531, 662, 165, 402, and 187 amino acids in length respectively);

(3) a crg as in (A) which is a cDNA having a NS selected from sequences (XXXIV), (XXXVI), (XXXVIII) and (XXXIX) given in the specification (1637, 2599, 1072, and 672 nucleotides in length respectively);

(4) a crg as in (A) which is a polypeptide having an amino acid sequence selected from sequences (XXXV) and (XXXVII) shown (394 and 13 amino acids in length respectively);

(5) a DNA sequence that hybridizes to any of the NSs as in (1)-(3), and degenerate variants;

- (6) a recombinant DNA molecule comprising a DNA sequence as in (1) or (3), and degenerate variants;
- (7) a probe capable of screening for the cigs or crgs in alternate species prepared from a DNA sequence as in (5);
- (8) a unicellular host transformed with a recombinant DNA molecule comprising a DNA sequence or degenerate variant which encodes a cig or crg gene product, or a fragment selected from sequences (I), (III), (V), (VII), (IX), (XI), (XIII), (XV), (XVII), (XIX), (XXI)-(XXVI), (XXVIII), (XXX), (XXXII), (XXXIV), (XXXVI), (XXXVIII) and (XXXIX), where the DNA sequence is operatively linked to an expression control sequence;
- (9) an antibody to a polypeptide sequence as in (2) or (4);
- (10) an immortal cell line that produces a monoclonal antibody as in (9);
- (11) an antisense nucleic acid against a cig mRNA comprising a nucleic acid sequence hybridizing to the mRNA;
- (12) a recombinant DNA molecule having a DNA sequence which, on transcription, produces an antisense ribonucleic acid against a cig mRNA, the antisense ribonucleic acid comprising a nucleic acid sequence capable of hybridizing to the mRNA;
- (13) a cig gene product-producing cell line transfected with a recombinant DNA molecule as in (12);
- (14) a ribozyme that cleave cig mRNA;
- (15) a recombinant DNA molecule having a DNA sequence which, upon transcription, produces a ribozyme as in (14);
- (16) a cig mRNA-producing cell line transfected with a recombinant DNA molecule as in (15);
- (17) a crg gene product (protein) used as an antiviral or anti-HCMV therapeutic;
- (18) a cig gene product (protein) used in conjunction with IFN therapy to reduce toxicity of the IFN and thus allow administration of higher doses of the IFN.

USE - The products can be used to obtain agents which can be used for anti-viral therapy, particularly anti-HCMV therapy. They can also be used for the development of drugs that would allow for higher dosage IFN treatments without the concomitant toxicity normally associated with administering high levels of IFN. The products can also be used for detection, diagnosis and drug screening.

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EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.0/6